

Fig. 1

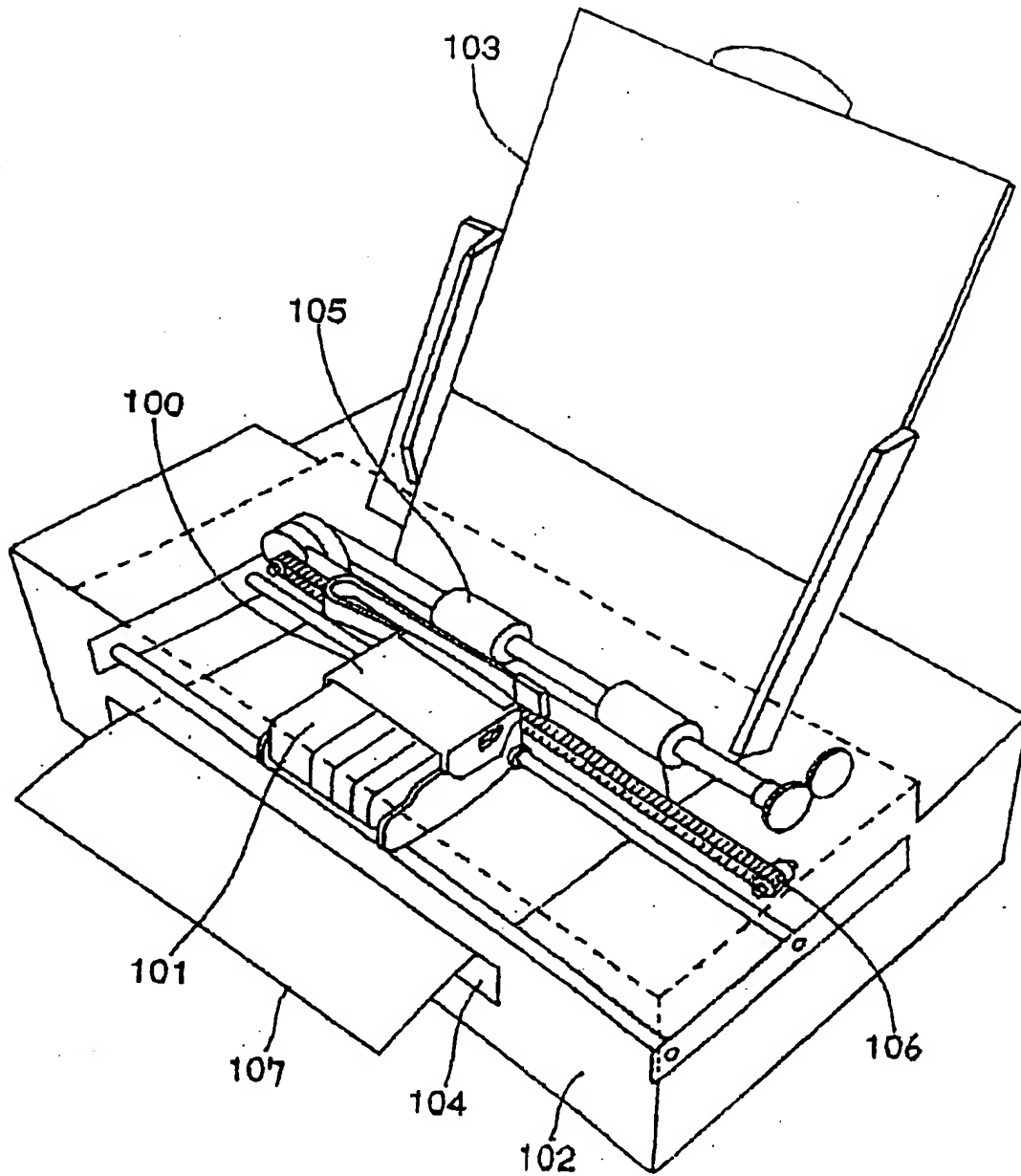


Fig. 2

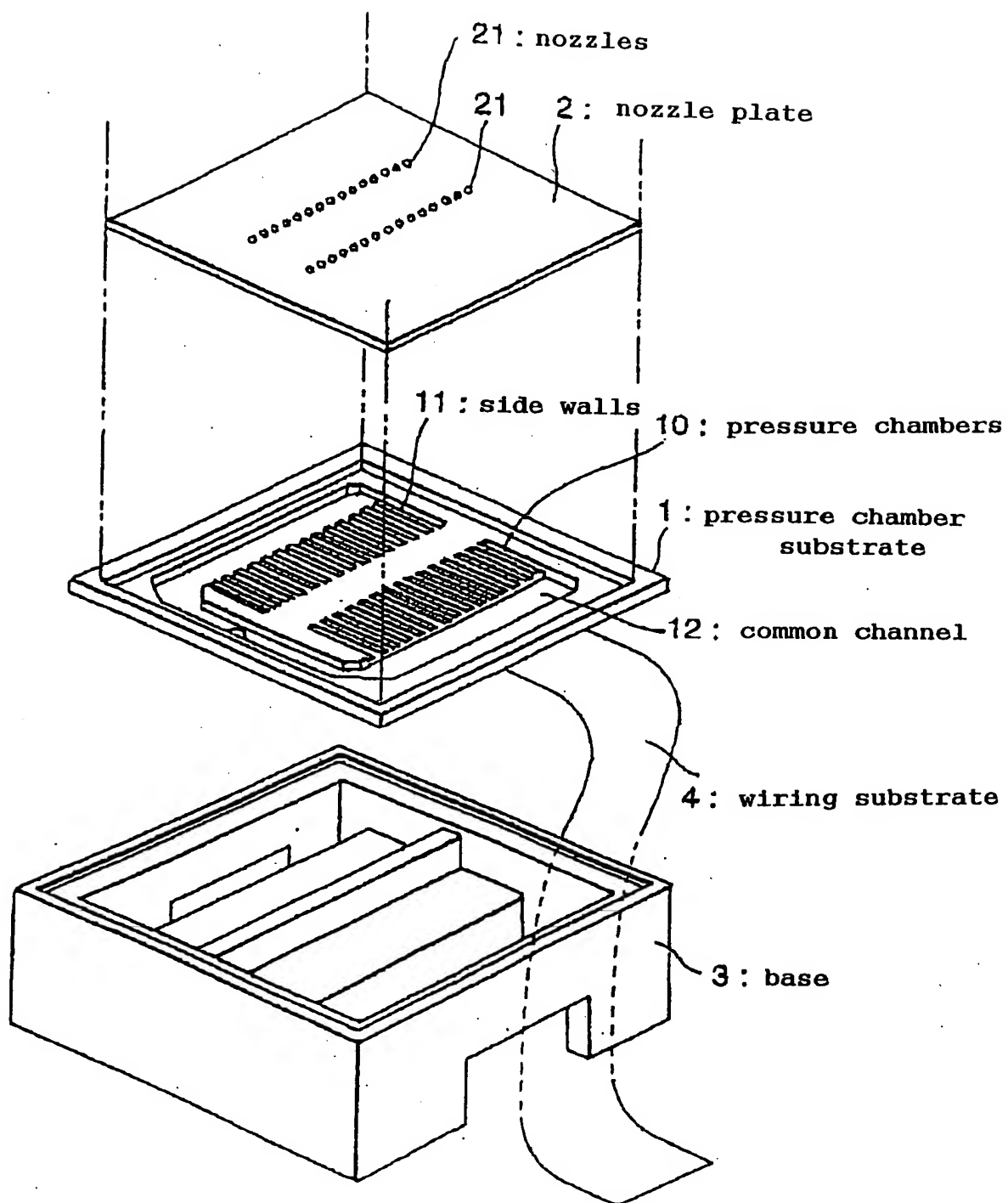


Fig. 3

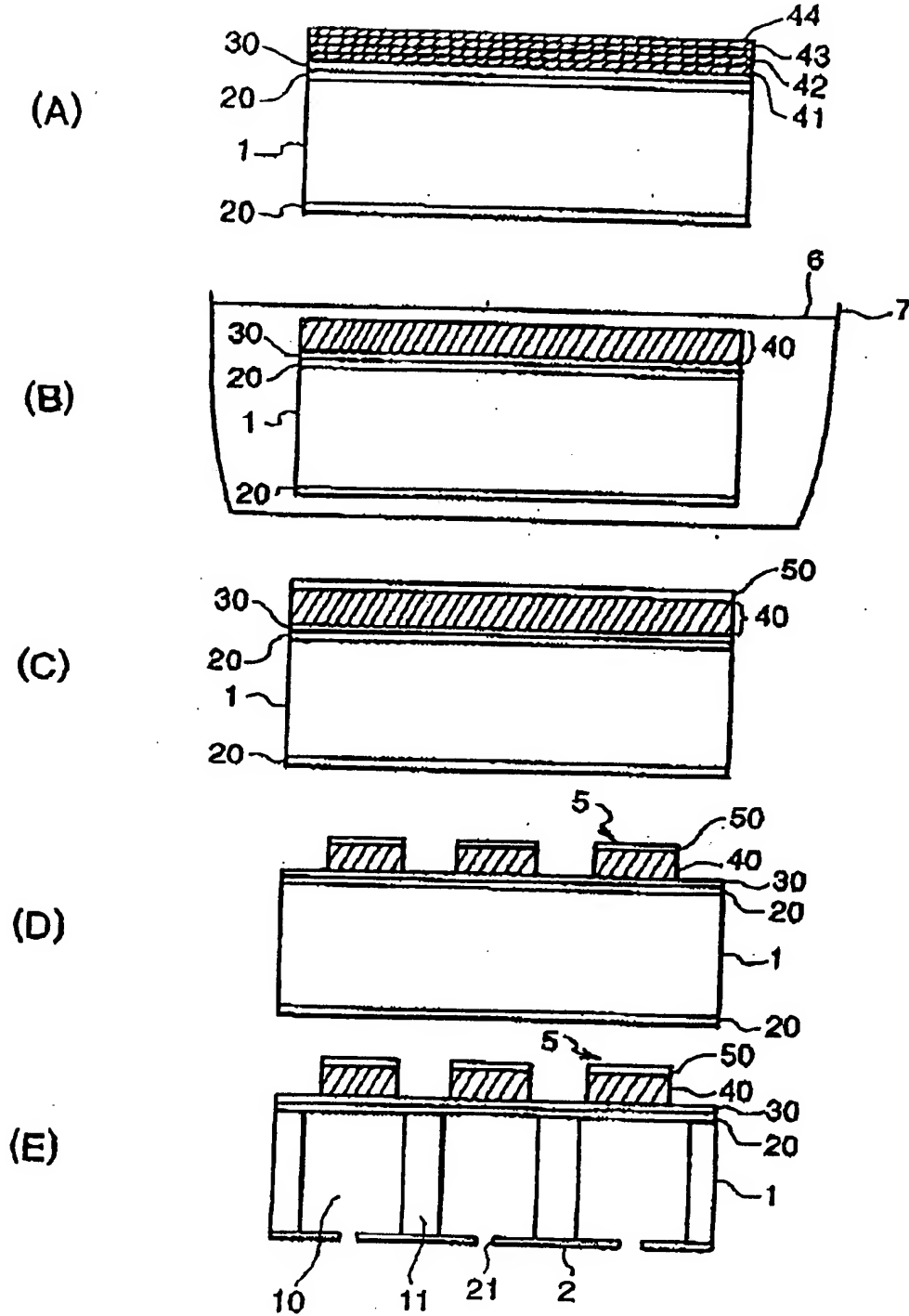
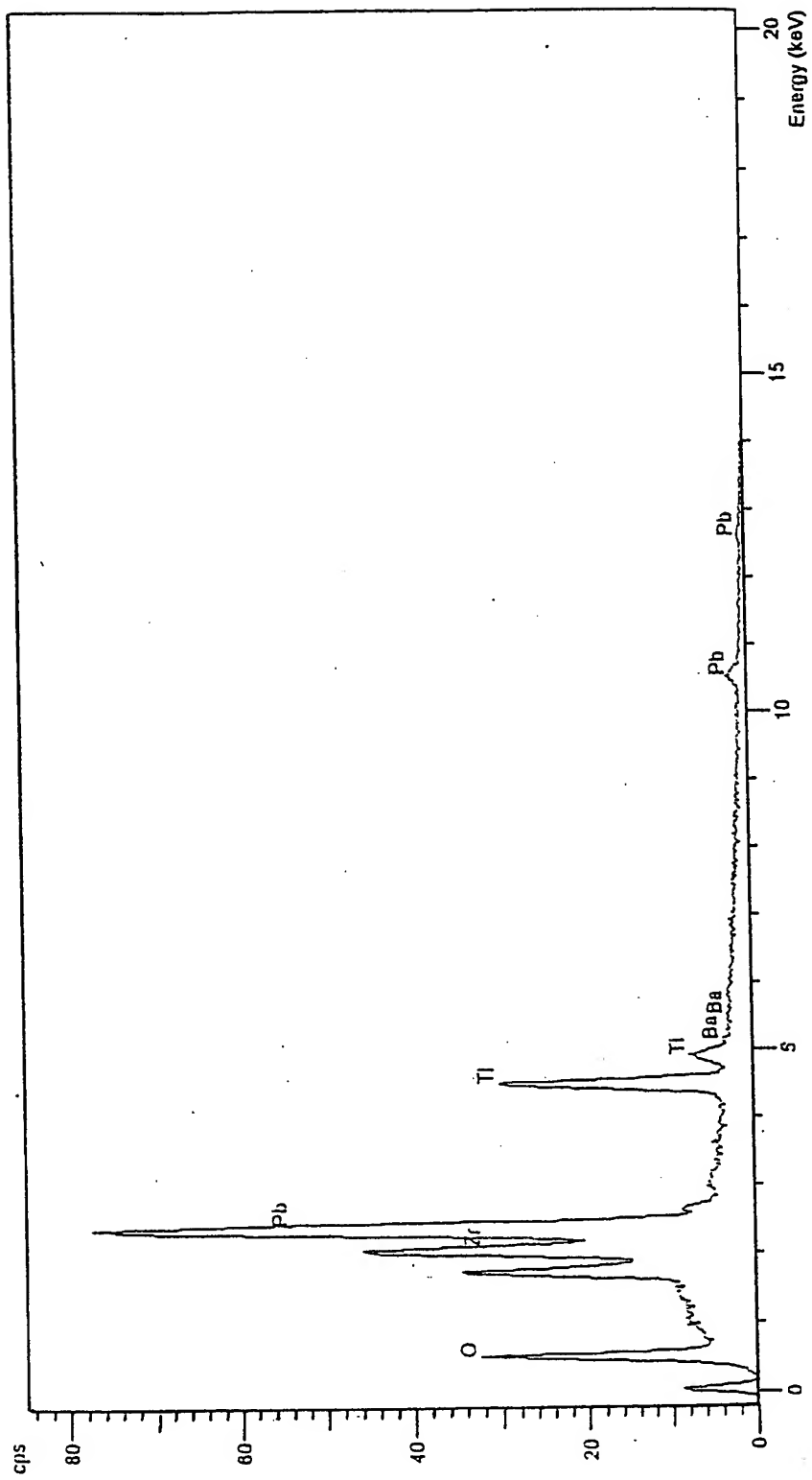


Fig. 4



Energy (keV) 0 5 10 15 20
cps 0 20 40 60 80

Fig. 5

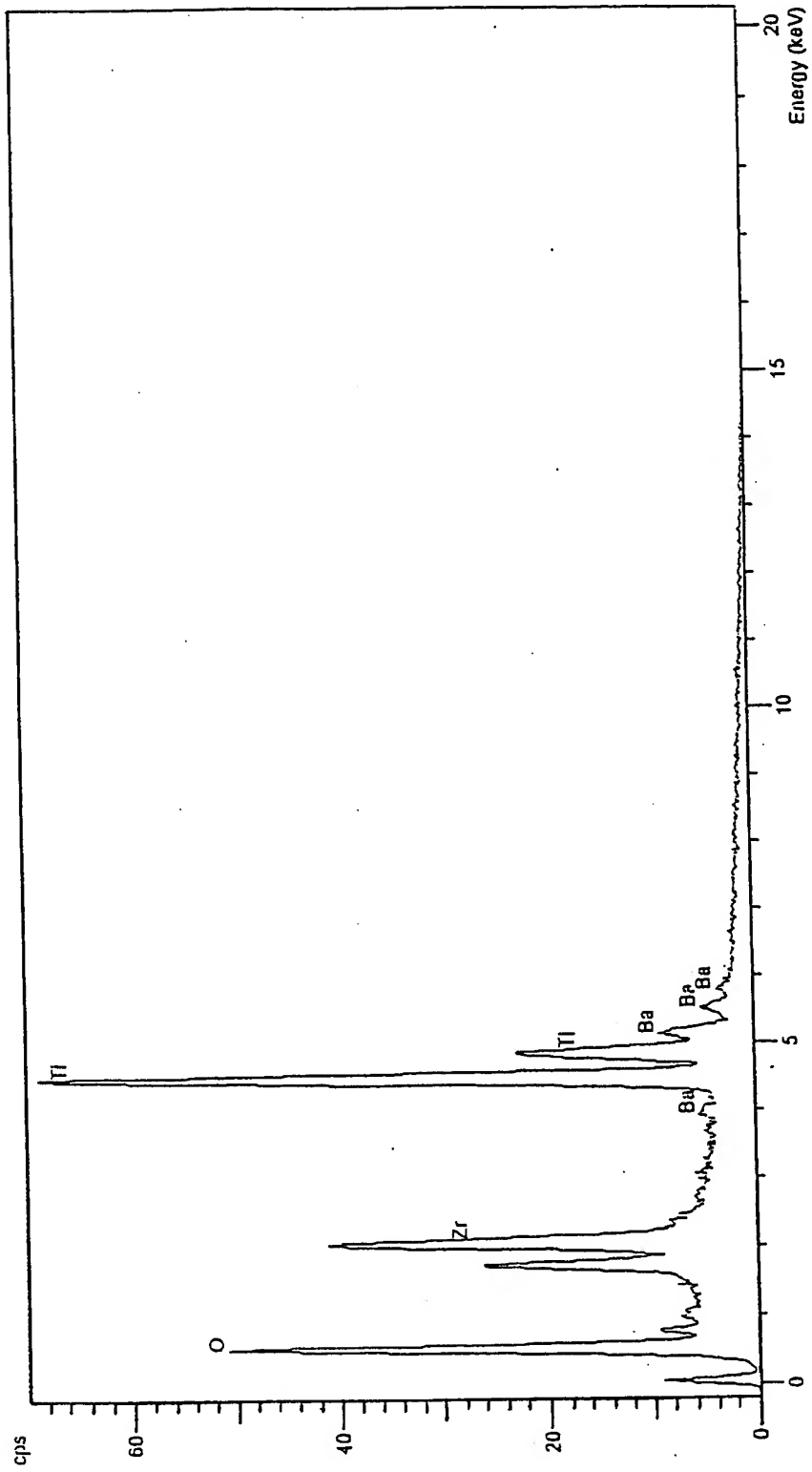


Fig. 6

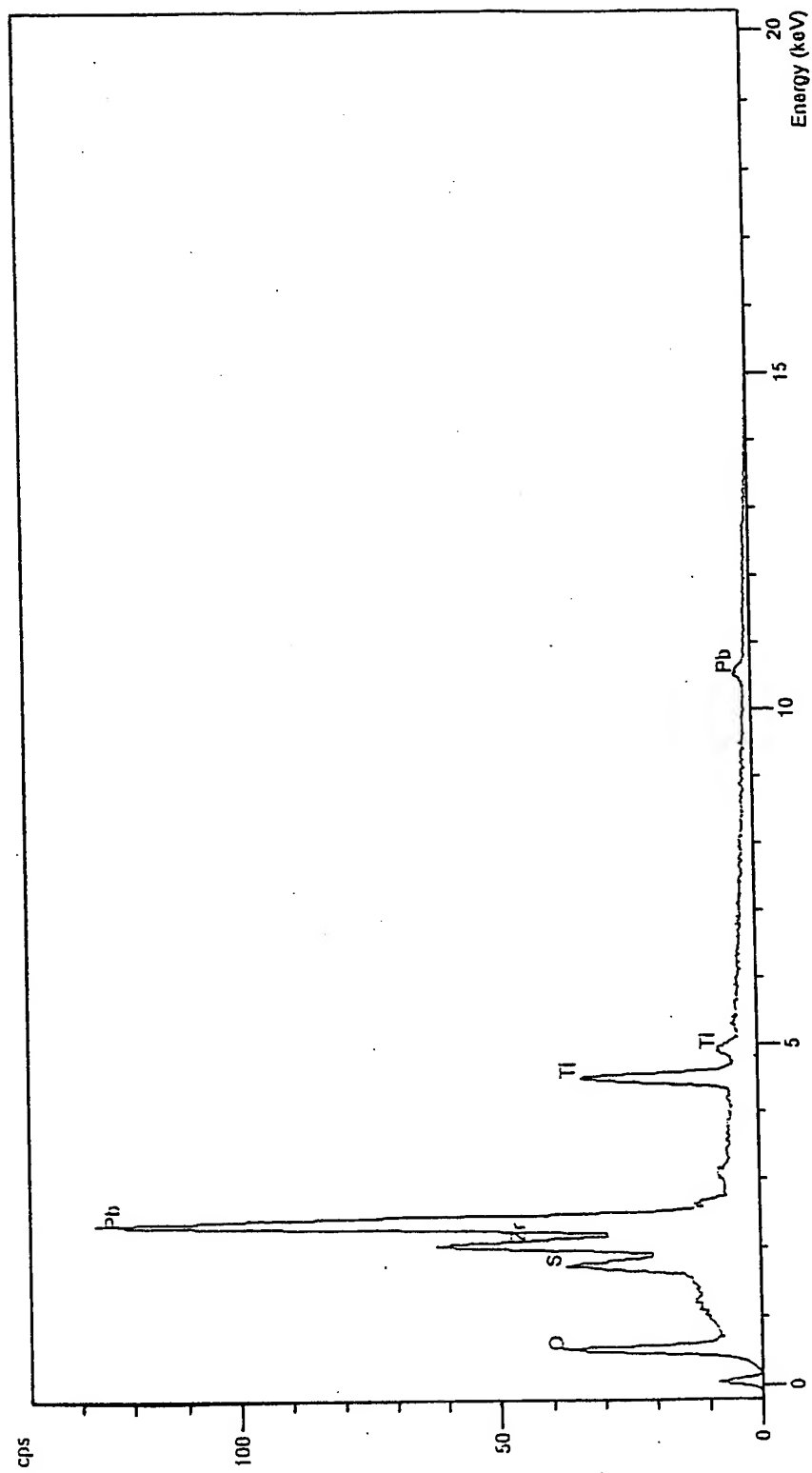
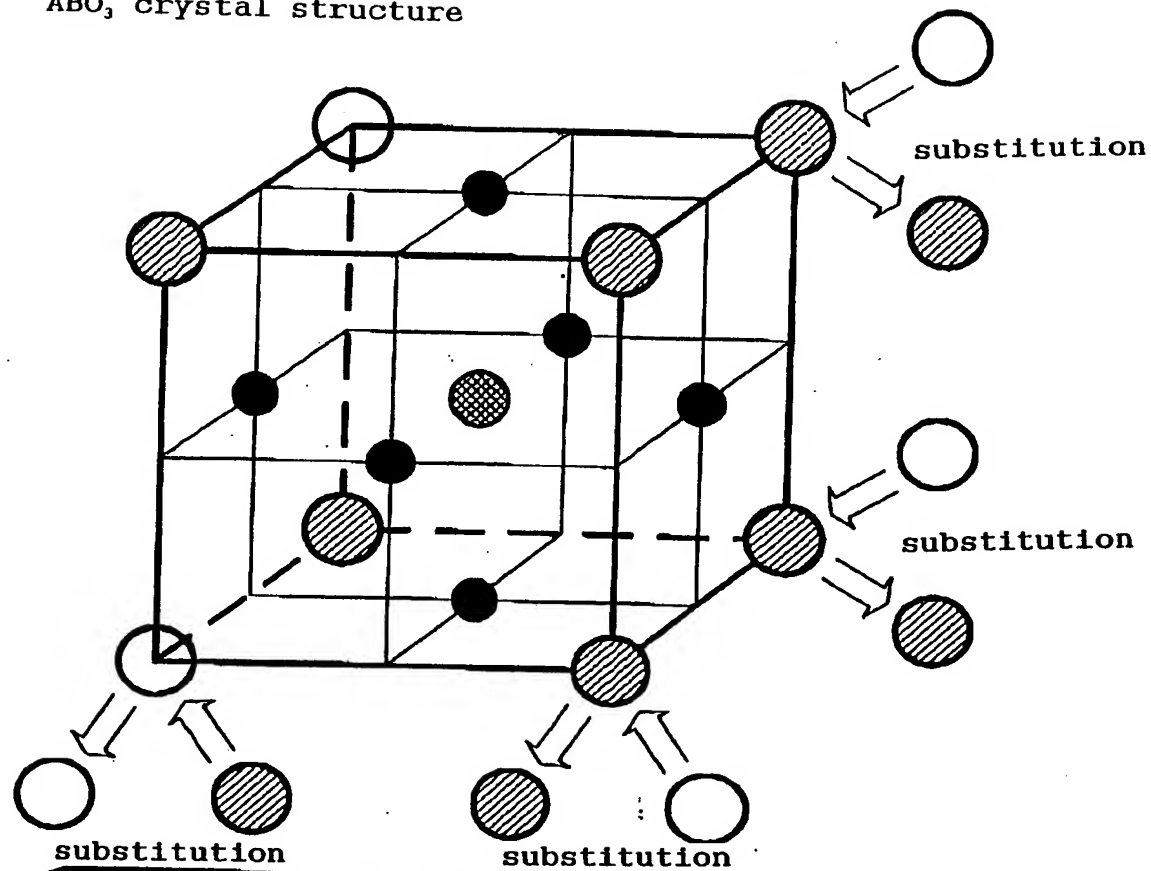


Fig. 7

ABO₃ crystal structure







Element :  (eg, Pb) or  (eg, Ba, Sr, La, Ca)
 Element :  (eg, Zr, Ti)
 Element :  (eg, O)

Fig. 8

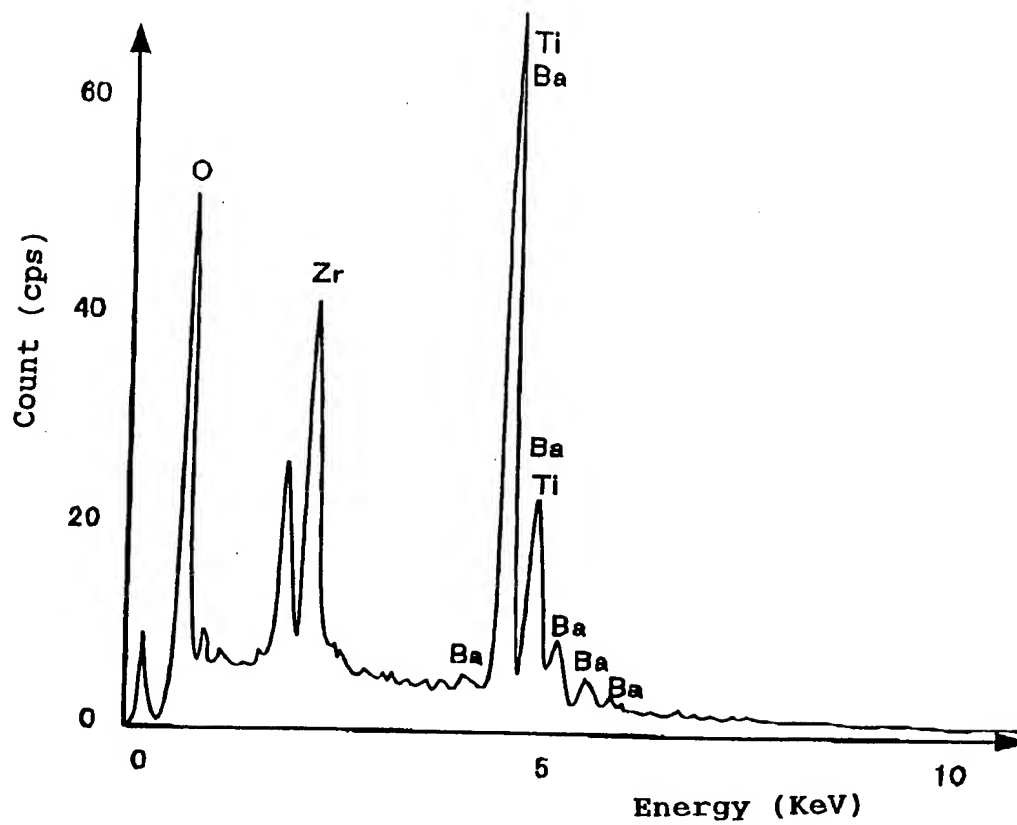


Fig. 9

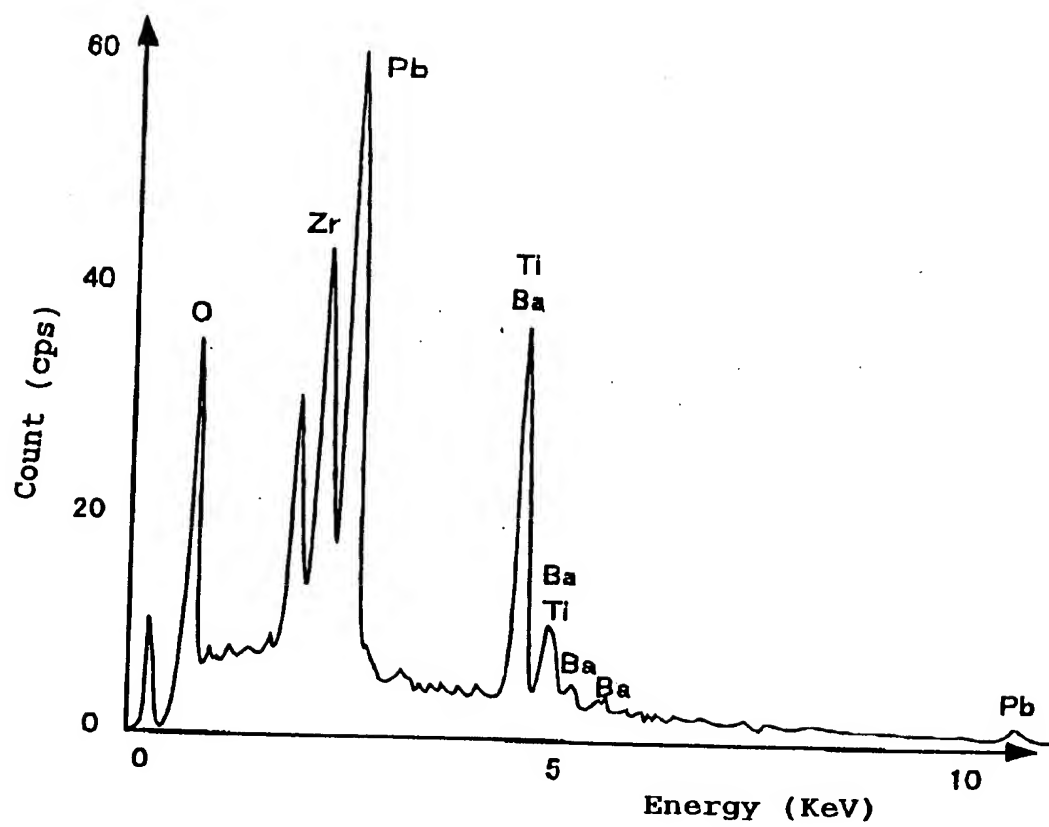


Fig. 10

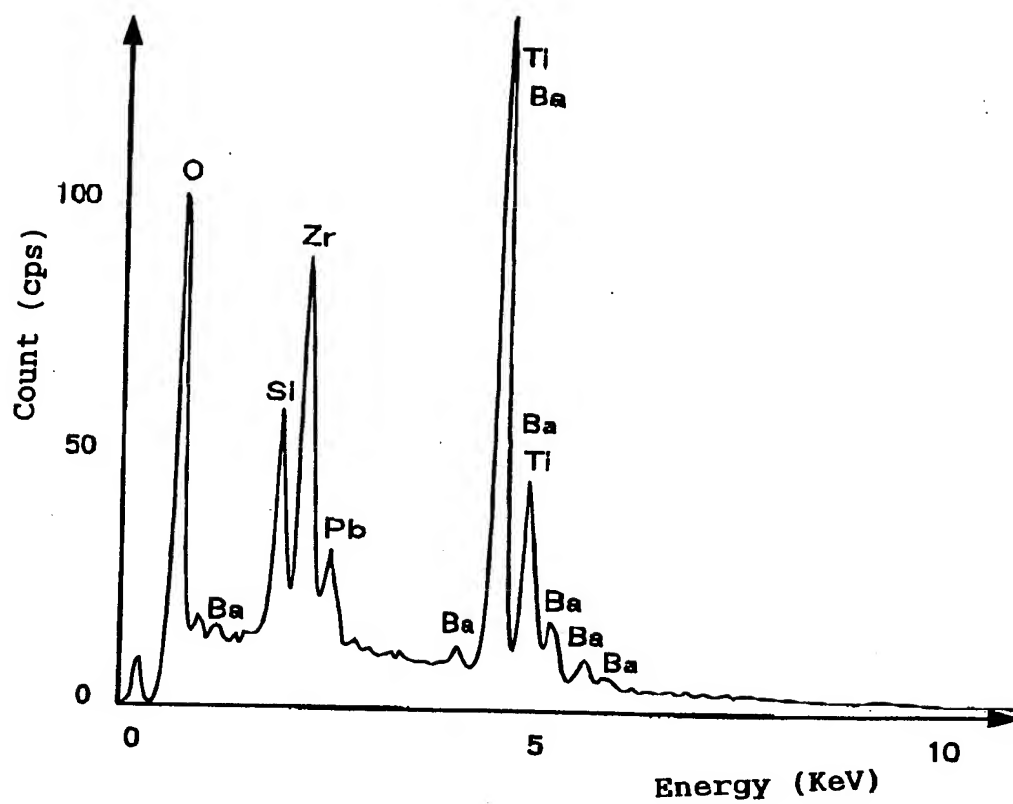


Fig. 11

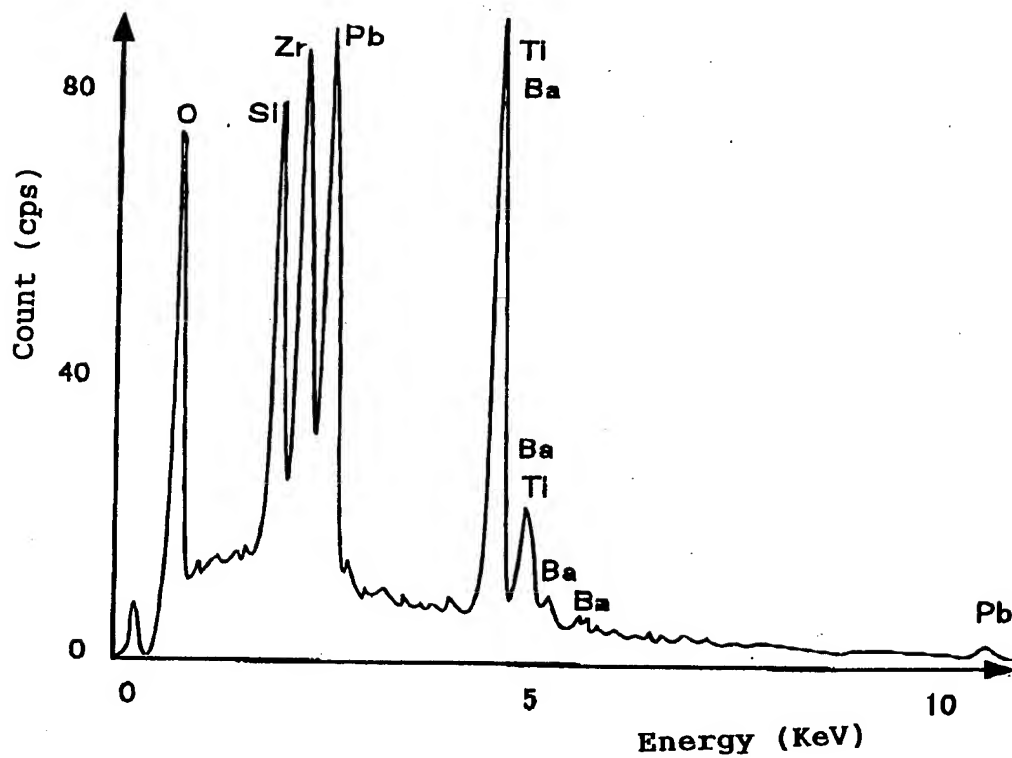


Fig. 12

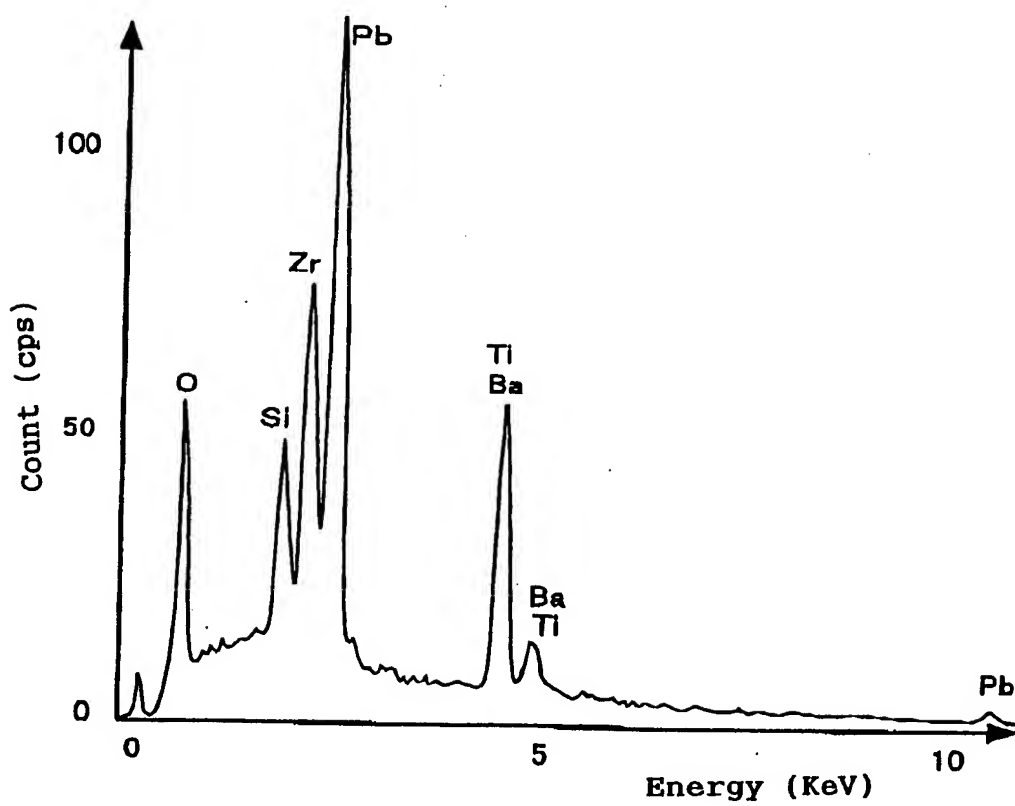


Fig. 13

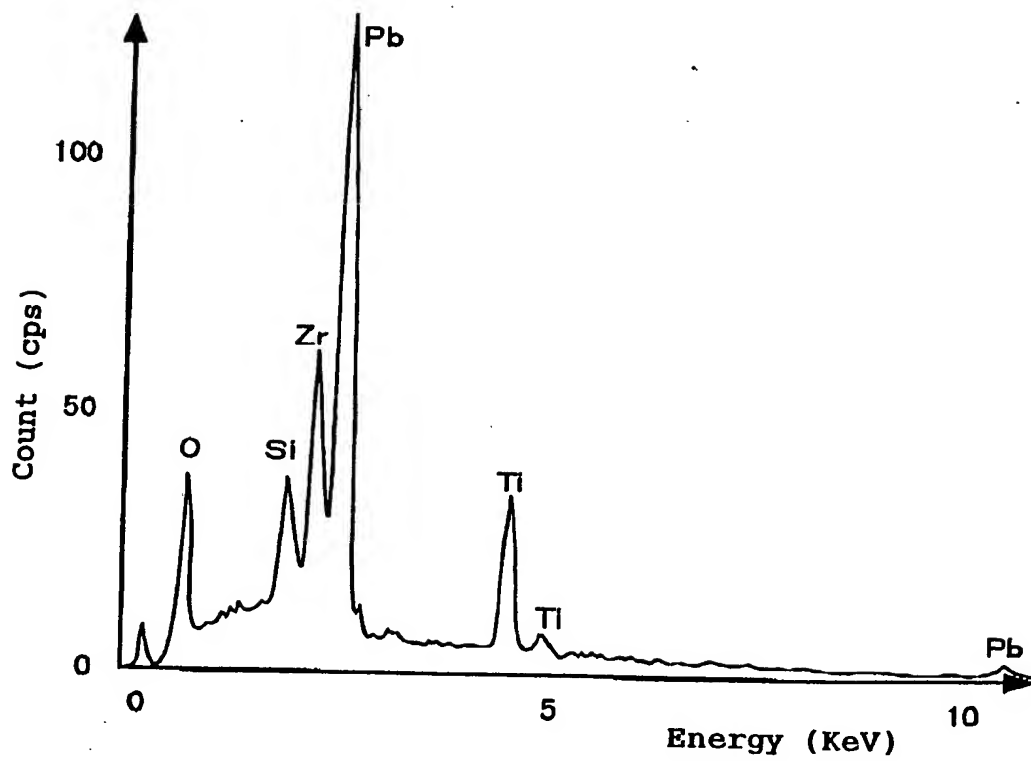


Fig. 14

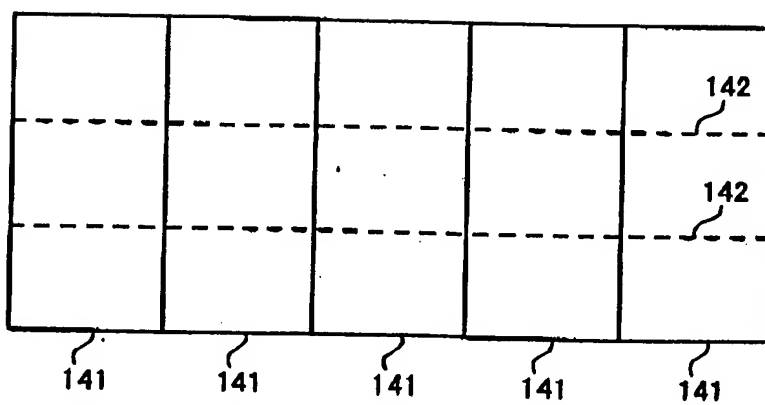
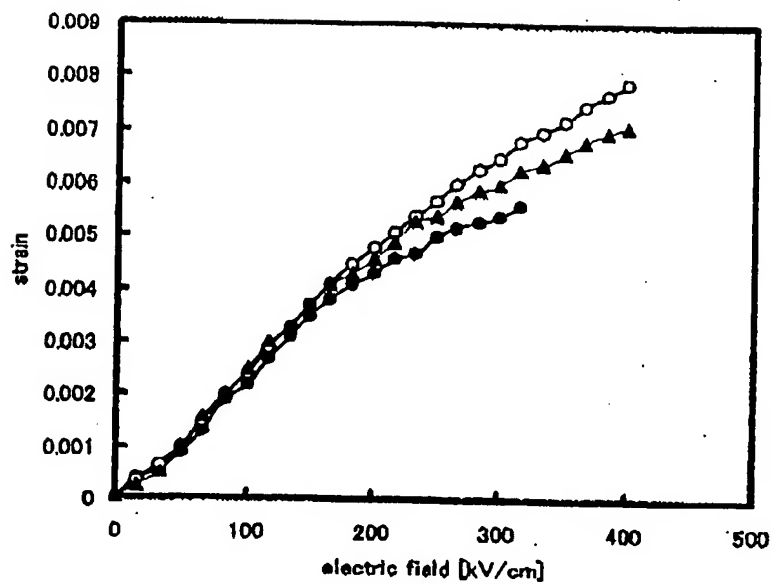


Fig. 15



Electric field strength dependence of strain

- dislocation: 4 layers
- ▲—▲ layers 3 layers
- 1 layer

Note: Ultimate strain indicates the strain limit at which the film breaks.